

**CURRICULUM VITAE**

**DOMINIC P. D'AGOSTINO, PH.D.**  
**ASSOCIATE PROFESSOR**  
**MARCH 2017**

**OFFICE ADDRESS:**

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**EDUCATION:**

- 1994- 1998: B.S. Nutritional Sciences and Biological Sciences, Rutgers University, New Brunswick, NJ
- 1999~2004 Ph.D. Neuroscience and Physiology; Division of Pulmonary and Critical Care Medicine; Graduate School of Biomedical Sciences; Rutgers University, Robert Wood Johnson Medical School, University of Medicine and Dentistry of NJ (UMDNJ), New Brunswick, NJ  
**Doctoral Dissertation:** "[Heme oxygenase is necessary for hypoxic chemosensitivity of cultured rostral ventrolateral medulla neurons](#)"  
September 3, 2004; UMDNJ-RWJMS (MEB)  
Mentor: Judith A. Neubauer, Ph.D.

**ACAMEDIC EMPLOYMENT AND RESEARCH EXPERIENCE:**

- 2004~2006: Postdoctoral Fellow (Mentor: Prof. Jay B. Dean)  
Department of Neuroscience, Cell Biology and Physiology)  
Wright State University Boonshoft School of Medicine, Dayton, OH
- 2006~2008: Postdoctoral Fellow  
Molecular Pharmacology and Physiology  
University of South Florida Morsani College of Medicine, Tampa FL
- 2008~2010: Research Assistant Professor (Non-Tenure Track)  
Molecular Pharmacology and Physiology  
University of South Florida Morsani College of Medicine, Tampa FL
- 2010~2015: Assistant Professor (Tenure Track)  
Molecular Pharmacology and Physiology

University of South Florida Morsani College of Medicine, Tampa FL

2016~Present: Associate Professor (Tenured)  
Molecular Pharmacology and Physiology  
University of South Florida Morsani College of Medicine, Tampa FL

2014~Present: Visiting Research Scientist  
Florida Institute for Human and Machine Cognition (IHMC)  
Ocala, FL 34471

### **PROFESSIONAL MEMBERSHIPS**

American Physiological Society (APS)  
Society for Neuroscience (SfN)  
Undersea and Hyperbaric Medicine Society (UHMS)  
Aerospace Medical Association (AsMA)  
National Academy of Inventors (NAI)  
University of South Florida President's Council  
American Association for Cancer Research (AACR)

### **AWARDS**

1996: Cook College/Rutgers Undergraduate Educational Assistance Award  
1999: Predoctoral Fellowship Award (5 yrs), UMDNJ-RWJMS  
2000: Graduate Student Respiratory Physiology Award, FASEB  
2003: Graduate Student Respiratory Physiology Award, FASEB  
2003: Proctor and Gamble Professional Award in Physiology, FASEB 2003  
2005: Best Overall Clinically Related Presentation, Undersea and Hyperbaric Medicine Society (UHMS)  
2005: Postdoctoral Fellowship Award (3 yrs), Office of Naval Research (ONR)  
2014: Allentown High School Hall of Fame Lifetime Achievement Award

### **EDITORIAL BOARDS**

Journal of Applied Physiology  
Oxford University Press

### **COMMITTEES/ SERVICE**

University of South Florida; Comparative Medicine; Institutional Animal Care and Use Committee (IACUC)  
USF Doctoral Student Mentor Molecular Pharm and Physiology Program in Integrated Biomedical Sciences  
USF Young Innovator Competition Judge  
USF Health Sciences Research Day Posters Judge  
USF Morsani College of Medicine Curriculum Committee for Medical Education  
USF Morsani College of Medicine Research Committee

### **ADVISORY BOARDS**

2014: Advisor: Expert Panel for FDA GRAS Determination of Ketone Metabolites

2012: Scientific Advisory Board Member: Winning the Fight against Neurodegenerative Diseases (WFND; ALS Foundation), Tampa, FL  
 2012: Scientific Advisory Board Member: Cognate Nutritionals  
 2013: Scientific Advisory Board Member: Max Love Project (501c3)  
 2014: Scientific Advisory Board Member: Epigenix Foundation  
 2015: Advisory Board Member: Keiser University  
 2015: Scientific Advisory Board Member: VIRTAs Health  
 2015: Scientific Advisory Board Member: Anemone  
 2015: Board Member: Kids Misdiagnosed Organization  
 2016: Task Force Dagger Foundation: Special Operations Forces (SOF) Health Initiatives  
 2016: National Hyperbaric Association (NHA)

#### **STUDY SECTIONS/ GRANT REVIEW**

2013: **Reviewer:** USF-Moffitt Anna D. Valentine Cancer Research Award Grants  
 2012~2014: **Ad Hoc Reviewer:** Department of Veterans Affairs: VA Merit Grant Review; Neurobiology-A (NURA) and Neurobiology-B (NURB)  
 2014~Present: **Regular Member Reviewer:** Department of Veterans Affairs: VA Merit Grant Review Neurobiology-B (NURB)

#### **PEER REVIEW SERVICE (AD-HOC REVIEWING)**

*High Altitude Medicine and Biology, Neuroscience, Free Radicals in Medicine and Biology, Epilepsia, Respiratory Physiology & Neurobiology, Journal of Evolution and Health, Epilepsy Research, PloS One, Nutrition & Metabolism, Respiratory Physiology & Neurobiology, International Journal of Sports Nutrition (ISSN), International Journal of Sports and Exercise Medicine, Journal of Lipid Research, Comprehensive Physiology, Journal of Sports Science and Medicine, International Journal of Cancer, Journal of Neuro-Oncology, Oncotarget*

#### **TEACHING**

**Lecturer (2005-2006):** Course Title: Cells, Tissues, Organ Systems (CATOS): Five Lectures: *Signaling I, II, II; Receptors I, II*; Medical Year 1, Wright State University Boonshoft School of Medicine, Dayton, OH  
**Lecturer (2005-2006):** Course Title: Applications of Nanotechnology: *Biological Applications of Atomic Force Microscopy*; Wright State University School of Medicine, Dayton, OH  
**Lecturer (2007-2008):** Course Title: Principles of Pharmacology; *Dietary Effect on Drug Absorption and Metabolism*; GMS 6513, USF, Tampa, FL  
**Lecturer (2007-present):** Course Title: Neuropharmacology; *Dopamine, Antipsychotics and Excitatory Amino Acids*; GMS 6735; USF, Tampa, FL  
**Major Professor (2010-present):** Directed Undergraduate Research GMS 7910; USF, Tampa, FL  
**Lecturer (2009-2010):** Course Title: Membrane Physiology; *Redox-Modulated Ion Channels*, GMS 6433, USF, Tampa, FL  
**Major Professor (2010-present):** Laboratory Rotations: Biomedical Science; GMS 6942; USF, Tampa, FL  
**Major Professor (2010-present):** Directed Doctoral Dissertation Research; GMS 7980 USF, Tampa, FL

**Major Professor (2011-present):** Graduate Seminar; GMS 7939 002 USF, Tampa, FL

**Lecturer (2011-present):** Course Title: Basic Medical Biochemistry; *Reactive Oxygen Species (ROS) and Oxidative Stress in Disease Processes*, GMS 6202, USF, Tampa, FL

**Lecturer (2016-present):** Course Title: GMS6440.003S17 Basic Medical Physiology; *Gastrointestinal Physiology; Small Intestine; Exocrine Pancreas & Liver/Gallbladder; Large Intestine* USF, Tampa, FL

**Lecturer (2016-present):** Course Title: GMS6706.003S17 Basic Medical Neurosciences; 1. *The Action Potential - Initiation & Propagation*; 2. *Synthesis, Storage, & Release of Neurotransmitters*; 3. *Postsynaptic Signaling*; USF, Tampa, FL

**Lecturer (2010-present):** Course Title: Foundations in Biomedical Sciences; *Reactive Oxygen Species (ROS)*, GMS 6001; USF, Tampa, FL

**Lecturer (2013):** Advanced Respiratory Pathophysiology; Medical Year 4; Obstructive and Central Sleep Apnea, MDT8200E.A51M13; USF, Tampa, FL

**Course Director (2011-present):** Advanced Studies in Metabolism and Signaling; GMS 7930; USF, Tampa, FL

## TRAINING EXPERIENCE AT USF:

### Postdoctoral Fellows/Supervised/Co-Supervised/Trained

Dr. Angela M. Poff, Dr. Csilla Ari, Dr. Raffaele Pilla, Dr. Heather Held, Dr. Tina Fiorelli  
Dr, Shannon Kesl

### Doctoral Degree Training

- 2010~2014 **Major Professor**, Ph.D. Program: Angela Poff: *"Targeting Cancer Metabolism with Ketosis and Hyperbaric Oxygen"* (2014). Graduate Thesis and Dissertation. <http://scholarcommons.usf.edu/etd/5294>
- 2010~2015 **Major Co-Professor**, Ph.D. Program: Shannon Kesl: *"Metabolic Therapy for Age-Dependent Impaired Wound Healing"* (2016). Graduate Dissertation. <http://scholarcommons.usf.edu/etd/6104>
- 2012~2017 **Major Professor**, Ph.D. Program: Nathan Ward (Presidential Fellow): *Cancer Metabolism: Modulating glucose metabolism to induce mitochondrial stress in a mouse model of metastatic cancer*. Graduate Dissertation
- 2014~Present **Major Professor**, Ph.D. Program: Andrew Koutnik (Presidential Fellow) *Metabolic Therapeutics in Cancer Cachexia*; Graduate Dissertation
- 2011~2015 **Major Professor (2012-13) and Committee Member**, Ph.D. Program: Hernandez-Ontiveros, Diana G., *"Neuroinflammatory Alterations via CD-36 in Traumatic Brain Injury"* (2015). Graduate Theses and Dissertations. <http://scholarcommons.usf.edu/etd/5699>
- 2012~2017: **Committee Member**, Ph.D. Program: Ciarlone, Geoffrey Edward, *"Hypercapnic Hyperoxia Increases Free Radical Production and Cellular Excitability in Rat Caudal Solitary Complex Brain Slice Neurons"* (2016). Graduate Dissertation. <http://scholarcommons.usf.edu/etd/6481>

- 2012~2017: **Committee Member and Collaborator**, Ph.D. Program: Ciarlone, Stephanie Lynn, "*The Effects of Synthetic and Dietary Therapeutics on Learning, Memory, Motor Coordination, and Seizure in an Angelman Syndrome Mouse Model*" (2016). *Graduate Theses and Dissertations*. <http://scholarcommons.usf.edu/etd/6482>
- 2011~2015: **Committee Member**, Ph.D. Program: Edwards, Clare B., "The effects of supplemented metabolites on lifespan and stress response pathways in *Caenorhabditis elegans*" (2015). *Graduate Dissertation*. <http://scholarcommons.usf.edu/etd/5681>
- 2011~2017: **Committee Member**, Ph.D. Program: Jamileh J. Ahmed *Analysis of iPSC-Derived Dopaminergic Neurons Susceptibility to Influenza and Excitotoxicity in Non-Affective Psychosis*
- 2009~2013: **Committee Member and Collaborator**, Ph.D. Program: Milene Brownlow: "*Diet-Induced Ketosis and Calorie Restriction in Mouse Models of Alzheimer's Pathology*" (2013). *Graduate Dissertation*. <http://scholarcommons.usf.edu/etd/4870>
- 2008~2013: **Committee Member**, Ph.D. Program: Adam Smith: "*Modulating the Pharmacokinetics of Bioflavonoids*" (2012). *Graduate Dissertation*. <http://scholarcommons.usf.edu/etd/4226>

### Master's Degree Training and Committees

- 2012~2015: **Committee Member**, M.S. Ryan J. Colquhoun: Master's Thesis: *Comparison of Powerlifting Performance in Trained Males Using Traditional and Flexible Daily Undulating Periodization*. <http://scholarcommons.usf.edu/etd/5464/>
- 2012~2015: **Committee Member**, M.S. Roberto E. Flores: Boston College: Master's Thesis: *Mycoplasma Arginini Increases Activation, Energetic Dereglulation, and Tumor Progression of VM-M3 Metastatic Macrophage Cells*

### Undergraduate Directed Research and Research Assistant Training

- 2016~Present: Janine DeBlasi (USF Honors College)
- 2015- 2016: Karina Bach (USF Honors College)
- 2012- 2016: MSP3 Student; Craig Goldhagen
- 2012~2014: MSP3 Student; Ashley Van Putten
- 2013~2014: MSP3 Student; Gabrielle Dimattia
- 2012~2014: Nicholas Mavromattes
- 2014~2015: Cem Murdin
- 2012~2013: Jacob Sherwood
- 2009~2010: Jaimie M. Luke
- 2008~2010: Jaime Lago

## High School Mentoring

2010~2016: BBBS Tampa Bay Mentor: James Tyler

### SUMMARY OF RESEARCH PROGRAM:

Our laboratory develops and tests metabolic-based therapies, including calorie restricted diets, ketogenic diets, exogenous ketogenic agents and metabolic-based drugs that target specific pathways linked pathophysiologically with seizure disorders, neurodegenerative diseases, metabolic dysregulation, cancer, muscle wasting and exercise performance. To investigate the mechanism of these pathologies we use a variety of *in vivo* and *in vitro* techniques, including radio-telemetry (EEG, EMG), electrophysiology, fluorescence microscopy, confocal microscopy, atomic force microscopy (AFM), electron microscopy, histology, biochemical assays, metabolomics, toxicology, *in vivo* bioluminescence imaging, spectrophotometry, behavioral testing and motor function testing. Our work has adapted and utilized radio-telemetry, confocal microscopy and AFM for use inside environmental chambers. These tools allow us to conduct whole-animal, tissue and cellular studies under a broad range of oxygen concentrations and gas pressures to simulate extreme environments or cellular hypoxia/ischemia. Our past and current projects, supported by the Department of Defense (DoD) and Office of Naval Research (ONR), have identified cellular and molecular correlates of CNS oxygen toxicity (CNS-OT) seizures, a phenomenon which limits the capability of Special Operations (SpecOps) diving. Our efforts have focused specifically on measuring neuronal excitability, reactive oxygen species (ROS) production, biomarkers of oxidative stress and global blood and tissue metabolomics.

In 2009 we became interested in understanding the anticonvulsant and neuroprotective mechanism of nutritional ketosis and developed exogenous ketones that produce therapeutic levels. Therapies developed and tested include naturally-derived and synthetic agents that induce hyperketonemia independent of calorie restriction or carbohydrate restriction. The ketogenic diet is the standard of care for drug-resistant and refractory seizures resulting from a variety of etiologies. The brain's ability to use exogenous ketone bodies for fuel has not been exploited therapeutically, and evidence suggests that therapeutic ketosis confers protection against seizures, hypoglycemia and neurodegenerative disorders by numerous mechanisms, including supporting brain energy metabolism. In addition to neurological disorders, metabolic-based therapies can target cancer metabolism, which derives energy primarily from glycolysis and substrate level phosphorylation. Due to mitochondrial defects, most cancer cells lack the metabolic flexibility to generate ATP from ketones. Our goal is to develop and test therapies that exploit the metabolic defects of cancer by targeting cancer-specific glycolytic metabolism (*e.g.* Warburg effect) and develop "press pulse" protocols enhance the efficacy existing cancer therapies. Independent of energy metabolism, our more recent work has shown that the ketone  $\beta$ -hydroxybutyrate is an inhibitor of NOD-like receptor family pyrin domain-containing protein (NLRP3) inflammasome, which suppresses inflammation. An emerging area of interest for me is developing metabolic-based therapies that improve health biomarkers linked to obesity, insulin resistance, type-2 diabetes, wound healing and exercise performance and resilience. Our *in vitro* and *in vivo* studies continue to

validate the efficacy, mechanism of action and safety of metabolic therapies (diet supplements, drugs), including exogenous ketones, with pharmacokinetic and toxicology studies. Our data has produced remarkable results in animal models of seizures and cancer, and current efforts have focused on moving these metabolic-based therapies into human clinical trials.

## **1. RESEARCH SUPPORT:**

### **Current Grants and Contracts**

Title: Florida Center for Brain Tumor Research - Statewide Brain Tumor Registry Program at the McKnight Brain Institute

Purpose: Determine the ketone raising and glucose lowering effects of ketone ester (BD AcAc2) under a range of different macronutrient diets. Characterize the anti-cancer effects of ketone ester in an orthotopic patient-derived brain tumor (glioblastoma) model. Test the ability of ketone ester to reduce tumor cell proliferation when used in combination with chemotherapy (Temozolomide) in chemo-resistant cells.

Funding Agency: Florida Department of Health

Project No: P0019025

Subcontract No: UFDSP00011478

Dates: 7/1/2016 to 6/30/2017

Role: **D'Agostino DP** (Project Director on Subcontract)

Title: Development and Testing of Ketogenic Diet, Ketone Supplementation and Hyperbaric Oxygen Therapy for Cancer

Purpose: The purpose of this study is to validate the efficacy and mechanism of metabolic-based approaches to managed aggressive forms of cancer. Pre-clinical cancer models will be used to evaluate the therapies and the underlying signaling pathways associated with suppression of tumor growth.

Funding Agency: Epigenix Foundation (501c3)

USF Award Number: 6143-1131-00

Dates: 4/1/2016 to 3/31/2017

Role: **D'Agostino DP (PI)**

Title: Therapeutic efficacy of the co-administration of Glutamate Oxaloacetate Transaminase and Oxaloacetate (GOT/OX) for Amyotrophic Lateral Sclerosis (ALS)

Purpose: The objectives of this study are to 1) determine the pharmacokinetic and pharmacodynamic parameters of GOT/OX in wild-type mice and to determine the effects of GOT/OX on the health and survival of SOD1-G93A mice, a well-known mouse model of ALS.

Funding Agency: Winning the Fight Against Neurodegenerative Diseases Foundation (WFND:501c3)

USF Award Number: 6143-1119-00

Dates: 9/1/2015 to 12/31/2016

Role: **D'Agostino DP (PI)**

Title: Mechanism of CNS and Pulmonary Oxygen Toxicity: Predicting and delaying oxygen toxicity in rats

Purpose: The major goal of this project is to determine the effects of CO<sub>2</sub> retention on production of reactive species and neuronal activity in the solitary complex. In addition, we plan to determine the effects of hypercapnic hyperoxia on physiological indicators of an impending oxygen toxicity seizure (hyperoxic hyperpnea & hypothermia) and on mitigation strategies for delaying onset of CNS oxygen toxicity seizures (therapeutic ketosis & hypobaric preconditioning).

Funding Agency: Office of Naval Research (ONR)

ONR Award: N000141310405

Dates: 12/1/2012 to 12/31/2015

Role: Dean JB (PI); **D'Agostino DP (Co-I)**

Title: Pre-Clinical Study to Assess Efficacy of Metabolic Therapy with a Branched Chain Amino Acid (BCAA) Formula in Mouse Model of Metastatic Cancer

Purpose: The purpose of this project is to complete a pre-clinical mouse study to assess the efficacy, tolerability and safety of a metabolic therapy (nutritional ketosis) combined with a branched chain amino acid formula. The outcome measures of this study are survival time from aggressive metastatic cancer, tumor bioluminescence, metabolomics, insulin signaling (IGF-1, AMPK, AKT, etc.), inflammatory cytokines and assessment for mitigating cancer cachexia,

Funding Agency: Scivation Inc and Florida High Tech Corridor (HTC) matching funds

USF Award #6143109200

Dates: 1/1/2013 to 12/31/2017

Role: **D'Agostino DP (PI)**

Title: Testing the Efficacy of Ketone Supplementation in a Mouse Model of Glucose Transporter Type-1 Deficiency Syndrome (GLUT1D) mice

Purpose: The ketogenic diet is the standard care for GLUT1D, but the restrictive nature of the diet prevents compliance in many cases. Nutritional ketosis is therapeutic for GLUT1D because it elevates ketones in the blood, beta-hydroxybutyrate and acetoacetate, which function as alternative energy substrates to offset hypoglycorrhachia. The project investigates several novel ketogenic agents that induce “artificial ketosis”, and this circumvents the dietary restriction associated with induction via the clinically used restrictive ketogenic diet.

Funding Agency: Glucose Transporter Type 1 Deficiency Syndrome Foundation (GLUT1D:501c3)

USF Award: 6143109500

Dates: 1/1/2014 to 12/31/2016

Role: **D'Agostino DP (PI)**

### **Foundation Accounts and Research Accounts**



Account Title: Metabolic Therapy and Cancer Research

Purpose: Account for advancing studies on metabolic therapies for cancer and for supporting existing sponsored research through private and corporate donations.

Funding Agency: Donations to USF Foundation (501c3)

USF Account No: 250244

Dates: 4/1/2014 to Present

Role: **D'Agostino DP (PI)**

Account Title: Patents and Licensing Research Foundation Account

Purpose: Funds to support existing sponsored research projects from royalties associated with USF patents on metabolic-based therapies.

Funding Agency: Division of Patents and Licensing

USF Account No: R64303

Dates: 1/1/2013 to 3/31/2018

Role: **D'Agostino DP (PI)**

### **Completed Research Projects:**

Title: Therapeutic Efficacy of Topical Ketone Supplements in combination with Amniotic Tissue Allographs therapy for Wound Healing

Purpose: This project is designed to test the efficacy and mechanisms of a potential wound healing therapy. We will investigate the effects of topical ketones and amnion, chorion patch in the migration of human dermal fibroblasts.

Funding Agency: Tides Medical

Grant #: 6143-1123-00

Dates: 11/1/2015 to 07/31/2016

Role: **D'Agostino DP (PI)**

Title: Efficacy and Mechanism of Ketone Esters for Central Nervous System Oxygen Toxicity (CNS-OT) Seizures

Purpose: The goal of this project is to develop and test several exogenous ketone agents as a mitigation strategy for CNS-OT in a rat model. In addition, pharmacokinetic and toxicology studies have been completed for FDA requirements for Generally Recognized as Safe (GRAS) determination. Microscopy and global metabolomic studies are being done to elucidate the cellular and molecular mechanism of this metabolic-based therapy.

Funding Agency: Office of Naval Research (ONR)

ONR Award: N00014-13-1-0062

USF Account Number: 6143108600

Dates: 12/1/2012 to 12/31/2015

Role: **D'Agostino DP (PI)**

Title: Assessment of Ketone Ester Glycerol Tris *D,L*-3-Hydroxybutyrate in GLUT1 Deficiency Syndrome

Purpose: The ketogenic diet is used for the metabolic management of GLUT1D, and manages the disease symptoms even in the presence of a persistent molecular pathology

(e.g. SLC2A1 defect). This study seeks to use a novel tri-ester of the ketone beta-hydroxybutyrate (BHB) in a GLUT1D mouse model to induce therapeutic ketosis. And preserve brain energy metabolism during hypoglycorrhachia. In addition to behavioral studies, blood and tissue is collected to assess the metabolic impact (global metabolic profile) that therapeutic ketosis has in the mouse model of GLUT1D.

Funding Agency: KetoProducts LLC

USF Award: 6143111000

Dates: 4/1/2015 to 3/31/2016

Role: Poff AP (PI); **D'Agostino DP (Co-I)**;

Title: Pharmacokinetic Studies of Ketone Ester Glycerol Tris *D,L*-3 Hydroxybutyrate

Purpose: The goal of this study is to conduct a dose-response pharmacokinetic study in rats using a novel ester of the ketone beta-hydroxybutyrate (BHB). This particular compound is under consideration for FDA Generally Recognized as Safe (GRAS) determination as a prescription medical food for the metabolic management of metabolic disorders and age-related neurodegenerative disorders and epilepsy. The advantage of using ketone supplementation in this form is that it circumvents the need for dietary restriction typically required for achieving therapeutic levels of ketones in the blood.

Funding Agency: KetoProducts LLC

USF Award: 6143111000

Dates: 4/1/2015 to 3/31/2016

Role: Poff AP (PI); **D'Agostino DP (Co-I)**;

Title: Effect of the Ketogenic Diet vs Western Diet on Strength, Body Composition and Metabolic Biomarkers

Purpose: This project was designed to assess the effects of nutritional ketosis on the performance, body composition, strength and blood safety biomarkers of advance athletes. The results from this experiment confirmed that nutritional ketosis results in favorable body composition alterations and shifts in blood biomarkers of metabolic health.

Funding Agency: Quest Nutrition

USF Award: 6143109300 and 6143109301

Dates: 1/1/2014 to 06/30/2015

Role: **D'Agostino DP (PI)**

Amount: \$120,000

Title: Cellular Mechanisms of CNS Oxygen Toxicity

Purpose: The primary objective of this project is to determine if a predictable pattern of cardiopulmonary changes precede onset of CNS oxygen toxicity, which could potentially be used as a biomarker of an impending O<sub>2</sub>-induced seizure. The second major goal is to determine the neuroprotective effects of hyperoxic preconditioning against CNS oxygen toxicity and its effects on real time production of ROS and RNS in neurons in the solitary complex produced during exposure to normobaric and hyperbaric hyperoxia.

Funding Agency: Office of Naval Research (ONR)

ONR Award: N000140710890

Dates: 12/1/2009 to 8/31/2013

Role: Dean JB (PI); **D'Agostino DP (Co-I)**

Amount: \$727,000

Title: Efficacy and Mechanism of Metabolic Therapy for Amyotrophic Lateral Sclerosis (ALS)

Purpose: There is currently no cure or effective treatment for ALS. Besides motor neuron degeneration, ALS is associated with impaired energy metabolism, which is pathophysiologically linked to mitochondrial dysfunction and glutamate excitotoxicity. The Deanna Protocol (DP) was tested as a metabolic therapy that has been reported to alleviate symptoms in patients with ALS. We tested this supplement protocol on motor function and survival in a mouse model of ALS (SOD1-G93A).

Funding Agency: Winning the Fight Against Neurodegenerative Diseases Foundation (WFND:501c3)

USF Account Number: 6143107700

Dates: 9/1/2012 to 8/31/2014

Role: **D'Agostino DP (PI)**

Amount: \$154,000

Title: Hyperoxia-Induced Oxidative Stress and its Ultrastructural Correlates in CNS Cells

Purpose: The objective of this project was to determine the effects of normobaric and hyperbaric hyperoxia on the biophysical properties of the plasma membrane and real time production of ROS and RNS using an integrated atomic force-fluorescence microscopy system that was developed and tested at USF. This DoD/DURIP equipment grant to develop hyperbaric technologies.

Funding Agency: Office of Naval Research (ONR)

ONR Award: N000140910244

Dates: 12/01/2008 to 7/1/2012

Role: **D'Agostino DP (PI); Dean JB (Co-I)**

Amount: \$677,420

Title: Laser Confocal Microscopy Studies of Oxygen Toxicity

Purpose: The purpose of this grant was to enable the purchase of a cutting-edge confocal microscopy system that we adapted for use inside an environmental/hyperbaric chamber. This technology allows us to visualize the effects of graded levels of hyperbaric gases on cellular processes, including reactive oxygen species (ROS) production, intracellular calcium and mitochondrial function in neurons. We have extended the use of this technology to many projects, including our wound healing and cancer studies

Funding Agency: Department of Defense (DoD) Defense University Research Instrumentation Program (DURIP) Equipment Grant

ONR Award No.: N000141110890

PR No., Mod No.: 11PR09362-00

Dates: 12/01/2008 to 7/1/2012

Role: **D'Agostino DP (PI)**

Amount: \$201,945

Title: Effect of Aging on O<sub>2</sub>-Dependent Redox Regulation of Survival and Growth of Human Fibroblasts and Rat Hippocampal Neurons: Implications for Wound Healing and

### Neuroprotection

Purpose: This pilot study allowed us to determine the effect of hyperoxia on cell death and ROS production in human fibroblasts and rat hippocampal neurons. The completion of these studies allowed us to further understand the role of O<sub>2</sub>-induced oxidative stress and the differential effects between cells types.

Funding Agency: Signature Interdisciplinary Program in Neuroscience (SIPIN) pilot grant

Dates: 4/1/2011 to 3/31/2012

Role: **D'Agostino DP (PI)**; Gould LJ; Ari C, Kesl S

Amount: \$4,000

Title: Molecular and Cellular Studies of CNS O<sub>2</sub> Toxicity using Hyperbaric Atomic Force Microscopy (HAFM)

Purpose: The objective of this project was to conduct hyperbaric AFM studies on brain cells to understand the effects of hyperoxia and other normobaric and hyperbaric gases on the cell membrane morphology. These studies allowed us to elucidate and the physical correlates of membrane lipid peroxidation, and to link this pathophysiologically to changes associated with hyperoxia-induced neuronal excitability and metabolic dysfunction.

Funding Agency: Office of Naval Research (ONR) Postdoctoral Fellow Award

Grant Award: ONR No. N000140610105

Dates: 12/01/05-11/30/08

Role: **D'Agostino DP (PI)**; Dean JB (Sponsor)

Amount: \$302,564

### **PEER REVIEW PUBLICATIONS (REVERSE CHRONOLOGICAL ORDER)** **(Senior Authorship Underlined)**

1. Seyfried TN; Yu G; Maroon JC; **D'Agostino DP**. (2017) Press-Pulse: A Therapeutic Strategy for the Metabolic Management of Cancer. *Nutrition and Metabolism* (London) (2017) Feb 23;14:19.
2. Ari C. Canfield CE; Copes N, Poff AM, Fiorelli TN, Landon CS, Goldhagen CR, Mavromates N, **D'Agostino DP**. (2017) Biochemical alterations in Amyotrophic Lateral Sclerosis (ALS) Mouse Model resulted from the Deanna Protocol Supplement Complex (accepted: *Metabolomics* #MEBO-D-16-00276R1)
3. Ari C, Kovacs Z, Juhasz G, Murdun C, Goldhagen CR, Koutnik A, Poff AM, Kesl SL, **D'Agostino DP**. (2016) Exogenous ketone supplements reduce anxiety-related behavior in Sprague-Dawley and Wistar Albino Glaxo/Rijswijk rats. *Frontiers Molecular Neuroscience*; 9: 137. doi: [10.3389/fnmol.2016.00137](https://doi.org/10.3389/fnmol.2016.00137)
4. Poff, A. M., Kernagis, D. and **D'Agostino, DP**. 2016. Hyperbaric Environment: Oxygen and Cellular Damage versus Protection. *Comprehensive Physiology*. 7:213–234.
5. Egan B, **D'Agostino DP**. (2016) Fueling Performance: Ketones Enter the Mix. *Cell Metabolism*. Sep 13;24(3):373-5. doi: 10.1016/j.cmet.2016.08.021

6. Ciarlone SL; Grieco JC, **D'Agostino DP**, Weeber E. Ketone ester supplementation attenuates seizure activity, and improves behavior and hippocampal synaptic plasticity in an Angelman syndrome mouse model. *Neurobiology of Disease* (2016) *Dec*;96:38-46. doi: 10.1016/j.nbd.2016.08.002. [
7. Wilson JM, Lowery RP, Sharp MH, Shields K, Roberts MD, De Souza EO, Joy JM, Ormes J, Rauch JT, Silva J, Volek JS, **D'Agostino DP**. (2016) The Effects of Ketogenic Dieting on Body Composition, Strength, Power, and Hormonal Profiles in Resistance Training Males. Accepted: *Journal of Strength and Conditioning Research* (JSCR-08-6651R2)
8. Colquhoun RJ, Gail CM, Walters J, Brannon A, Kilpatrick MW, **D'Agostino DP**; Campbell BI. Comparison of Powerlifting Performance in Trained Males Using Traditional and Flexible Daily Undulating Periodization. (2016) *J Strength Cond Res*. 2017 Feb;31(2):283-291. DOI: 10.1519/JSC.01500
9. Kesi SL, Poff AM, Ward NP, Fiorelli TN, Ari C, Van Putten AJ, Sherwood JW, Arnold P, **D'Agostino DP**. (2015) Effect of Sustaining Dietary Ketosis on the Hippocampal and Serum Metabolome of Sprague-Dawley Rats. *Nutrition and Metabolism*; 2016 Feb 4;13:9. doi: 10.1186/s12986-016-0069-y
10. Ari C, **D'Agostino DP**. Contingency checking and self-directed behaviors in giant manta rays: do fish have self-awareness? *Journal of Ethology*, May 2016, Volume 34, Issue 2, pp 167-174.
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### **TECHNICAL REPORTS**

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2. **D’Agostino DP.** (2014) Efficacy and Mechanism of Ketone Esters for Central Nervous System Oxygen Toxicity (CNS-OT) Seizures. Tech Report for ONR Award: N00014-13-1-0062
3. **D’Agostino DP.** (2014) Hyperoxia-Induced Oxidative Stress and its Ultrastructural Correlates in CNS Cells. Tech Report for ONR Award: N000140910244
4. **D’Agostino DP (PI).** (2013) Laser Confocal Microscopy Studies of Oxygen Toxicity. Tech Report for ONR Award No.: N000141110890
5. **D’Agostino DP (PI).** (2012) Dean JB. Molecular and Cellular Studies of CNS O<sub>2</sub> Toxicity using Hyperbaric Atomic Force Microscopy (HAFM): Tech Report: ONR Award: N000140910244

### **PATENTS/INVENTIONS/DISCLOSURES FILED:**

1. Jay B. Dean; **Dominic P. D’Agostino**; “Development and Use of Hyperbaric Atomic Force Microscopy” (Patent: 09A008PR2, University of South Florida): <http://www.google.com/patents/US20130145506>
2. **Dominic P. D’Agostino**; Jay B. Dean. “Systems And Methods For Performing Microscopy At Hyperbaric Pressures ” (Patent: US 20130145506 A1, University of South Florida): <http://www.google.com/patents/US20130145506>
3. **Dominic P. D’Agostino**; Jay B. Dean: “Integrated System for Hyperbaric Atomic Force Microscopy and Fluorescence Microscopy in Live Cells (Patent: 09A008, University of South Florida)

4. **Dominic P. D'Agostino**; Angela Poff; *"Targeting Cancer with Metabolic Therapy and Hyperbaric Oxygen"* (Patent: WO2014085652 A1, University of South Florida): <http://www.google.com/patents/WO2014085652A1?cl=en>
5. **Dominic P. D'Agostino**; Patrick Arnold; Jay B. Dean; Raffaele Pilla; *"Ketone esters for prevention of CNS oxygen toxicity"* (Patent: US20140073693 A1); University of South Florida): <http://www.google.com/patents/US20140073693>
6. **Dominic P. D'Agostino**; Patrick Arnold; *"Composition and Methods for Producing Elevated and Sustained Ketosis"* (US Patent: WO2014153416 A1; University of South Florida): <http://www.google.com/patents/WO2014153416A1?cl=en>
7. **Dominic P. D'Agostino**; Shannon Kesl; *"Metabolic Therapy for Treatment of Ischemic Wounds"* (Patent: 13A053PRC, University of South Florida)
8. **Dominic D'Agostino**; Shannon Kesl: *Methods of Sustaining Dietary Ketosis and its Effects on Lipid Profile*; (14A004PRWO; PCT/US15/011165, University of South Florida) <https://www.google.com/patents/WO2014153416A1>
9. Edwin Weeber; **Dominic D'Agostino**; Stephanie Ciarlone: *"Ketone Esters for Treatment of Angelman Syndrome"* (United States Patent No. 9,364,456 on June, 2016.) <http://www.freepatentsonline.com/9364456.html>
10. **Dominic P. D'Agostino**; Shannon Kesl; Patrick Arnold: Composition for suppressing appetite and/or promoting ketosis and weight loss in a mammal. Comprises medium chain fatty acids or its esters, and beta-hydroxybutyrate compounding. (Patent: US2014350105-A1)
11. **Dominic P. D'Agostino**; Patrick Arnold; Poff AM: Treating metabolic dysregulation such as Alzheimer's disease and cancer, comprises administering a ketogenic diet to an animal, and subjecting the animal to a hyperbaric oxygen-enriched environment. (Patent: US2014072654-A1)
12. **Dominic P. D'Agostino**; Patrick Arnold; Dean J.B: Treating neurological disorders e.g. Alzheimer's disease arising from impaired brain metabolism involves inducing mild ketosis in a subject by administering a dose of ketone ester. (Patent: CA2873057-A1)
13. **Dominic P. D'Agostino**; Angela Poff; *"The Ketone Metabolite  $\beta$ -hydroxybutyrate Blocks NLRP3 Inflammasome-Mediated Inflammatory Disease"* (Disclosure:#13A053, University of South Florida)
14. Csilla Ari; **Dominic P. D'Agostino**. Elevated Blood Ketone Levels by Ketogenic Diet or Exogenous Ketone Supplements Induced Increased Latency of Anesthetic Induction. USF ID#16A018PR\_Ari
15. **Dominic P. D'Agostino**; Csilla Ari; *"Exogenous Ketones and Resistance to Anesthesia"* (IDF Requested, University of South Florida)
16. Csilla Ari; **Dominic P. D'Agostino**; *Ketone Supplementation Elevates Blood Ketone Level and Improves Motor Function in GLUT1 Deficiency Syndrome Mice"* (16B116-Ari, University of South Florida)
17. Csilla Ari, **Dominic P. D'Agostino**. Exogenous Ketone Supplementation Improved Motor Function in Sprague-Dawley Rats. Disclosure:16A019

18. Csilla Ari, **Dominic P. D'Agostino**. Elevated Blood Ketone Levels by Ketogenic Diet or Exogenous Ketone Supplements Induced Increased Latency of Anesthetic Induction. Disclosure: 16A018
19. Csilla Ari, **Dominic P. D'Agostino**. 16B128\_Ari - Neuroregeneration improved by ketone: Disclosure: 16B128\_Ari

## INVITED PRESENTATIONS, LECTURES AND KEYNOTES

1. University of Florida, McKnight Brain Institute; Department of Neuroscience; (March 2, 2017); *Emerging Applications of Exogenous Ketones*
2. Boston College; Invited speaker: Department of Biology; (Nov. 15, 2016): *Therapeutic Ketosis: Regulation, Signaling and Applications*
3. Boston College; Invited lecture;; (Nov. 15, 2016): Lecture subject: *Cancer as a Metabolic Disease: Press Pulse Therapies*
4. American Functional Medicine Association (AFMA); (Nov. 12, 2016); *Nontoxic Metabolic Management of Metastatic Cancer*
5. Health Centers the Future (HCF) Seminars: (Nov. 5, 2016); *Nutritional Ketosis: Signaling, Applications and Implementation*
6. Society of Weight-Training Injury Specialists (SWIS 2016; Oct 15, 2016); *Metabolic Regulation and Signaling*. <http://swis.ca/swis-2016/>
7. Morsani College of Medicine; Third year DPT students. USF School of Physical Therapy & Rehabilitation Sciences: *Nutrition Expert Panel: Health Promotion and Wellness*
8. Fifth Ketogenic Diet Symposium (Sept 23, 2016; Banff, Canada): Invited speaker: *In Vitro Model Systems for Cancer* Moderator and Panel Discussant for Ketogenic Diet and Cancer
9. Fifth Ketogenic Diet Symposium (Sept 22, 2016; Banff, Canada): Moderator and Panel Discussant for Ketogenic Diet and Cancer
10. Pruvit International MORE Conference (Sept 2-4; Louisville, KY): Panel discussion on the Science and Application of Exogenous Ketone Formulation
11. Preventive and Integrative Medicine Interest Group; Morsani College of Medicine, University of South Florida (Sept. 15, 2016): *Neurological Applications of Nutritional Ketosis*
12. Pruvit International MORE Conference (Sept 2-4; Louisville, KY): *Panel discussion on the Science and Application of Exogenous Ketone Formulation*
13. BioLayne Foundation Fitness Camp Conference: University of South Florida, Morsani College of Medicine (August 5-6, 2016). *Ketone Metabolites as Signaling Molecules for Prevention of Cachexia*.

14. Low Carb USA, 1<sup>st</sup> International Conference (Westin Gaslamp Dist, San Diego, CA: July 29-30<sup>th</sup>); *Ketone Metabolites as Signaling Molecules*  
<https://go.lowcarbusera.org/videos-optin>
15. Forever Green (Grand Lake Lodge: Savannah, GA; July 16<sup>th</sup>); *Development, Testing and Applications of Exogenous Ketones*
16. Pruvit (Hyatt Regency, Tampa Airport; Tampa, FL; May 20, 2016): KetoKademy Seminar: *Applications of Exogenous Ketones*
17. Keiser University (Tampa, FL; May 24, 2016). *Metabolic-Based Research and Approaches to Target Neurological Disorders*
18. Arizona Naturopathic Medical Association (AzNMA). (Scottsdale, AZ, May 20-21, 2016); *Ketogenic Nutrition and Supplementation as an Adjuvant for Cancer Management*
19. Hyperbaric Medical Solutions (Woodbury, NY; May 10, 2016): *Combined use of HBOT and Ketogenic Diet for Cancer Management*. <http://hyperbaricmedicalsolutions.com/drhoffman-com-2016-05-10-001/>
20. Office of Naval Research Workshop on Decompression Sickness (DCS) and Central Nervous System (CNS) Oxygen Toxicity: (ONR; Washington DC; May 13, 2016); *CNS Oxygen Toxicity: Mitigation Strategy*
21. Pruvit (Hyatt Regency; Tampa, FL; March 20, 2016): KetoLife Seminar: *Ketones as a Superfuel: The Science of Ketones*
22. Forever Green (Forever Green Headquarters: Salt Lake City Utah; Feb. 20, 2016); *The Science of Ketones*
23. US Army Research, Development and Engineering Command; Natick Soldier Research Center (Natick, MA; January 21-23, 2016): *Nutritional Ketosis: Implications for Warfighter Health, Performance and Resilience*
24. Office of Naval Research (ONR) Undersea Human Performance Workshop; Naval Research Laboratory (San Diego, CA; 2016); *Metabolic Countermeasures for Performance and Resilience in the Undersea Environment*
25. US Special Operations Command (SOCOM): (Fort Bragg; NC; January 5-6, 2016); *Nutritional Ketosis: Implications for Warfighter Health, Performance and Resilience*
26. SEAL FIT Workshop: (San Diego, CA: Dec 4-5, 2015): *Exogenous Ketones for Warfighter Safety Performance and Resilience*
27. Regenerative Cellular Therapy (RCT) Workshop: Costa Diamante Bella Sirena Treatment Center (Puerto Peñasco Sonora, Mexico; Oct. 26-27, 2015): *Nontoxic Metabolic Management of Metastatic Cancer*
28. University of Alabama at Birmingham (UAB); Nutrition Obesity Research Center and Department of Nutrition Sciences. (Birmingham, Alabama; Oct. 6 -7, 2015): *Nutritional Ketosis: Implications for Obesity and Associated Disease States*
29. UCB Epilepsy Summit I: Advancing Innovative Science into Patient Solutions (Braine-l'Alleud, Belgium; Sept. 30 – Oct.1, 2015); *Metabolism of glioma cells and tumors associated with epilepsy – role of ketogenic diet*

30. NASA Johnson Space Center: Department of Biomedical Research & Environmental Sciences; (Houston, TX; August 27, 2015); *Metabolic Countermeasures Nutritional Strategies for Long Duration Space Flight*
31. NASA Johnson Space Center: Department of Exercise Physiology; Human Research Program (HRP); (Houston, TX; August 26, 2015); *Superfuel: Synthetic Ketones as a Strategy for Long Duration Space Flight: Mitigating Physiological Risks*
32. NASA-sponsored meeting on Biological Countermeasures (BCMs) against Space Radiation Risks (IHMC Pensacola; Aug 18-19, 2015); *Metabolic Approaches to Reducing Radiation-Induced Carcinogenesis, Oxidative Stress and Inflammation*
33. NASA-sponsored meeting on Human Performance and Resilience in Space and Undersea Environments (IHMC Pensacola; August 11-12, 2015); *Metabolic Countermeasures Against Physiological Effect of Space and Undersea Environments*
34. BioLayne Foundation Conference: University of South Florida, Morsani College of Medicine (July 31- Aug 1, 2015). *Metabolic Interventions for Neurological Resilience and Improved Body Composition*
35. Genentech, Department of Molecular Oncology (San Francisco, CA; June 19-20); *Understanding the Molecular Mechanism of the Ketogenic Diet; Druggable Targets*
36. Notable Labs (San Francisco, CA: June 17-18); *Development of a Nontoxic Metabolic Therapy for Cancer; Molecular Pathways*
37. Drexel University 4th Annual Sport Nutrition Conference (Philadelphia, PA: May 19, 2015); *Keynote: Metabolic Strategies for Enhanced Performance and Body Composition*
38. Third International Conference on Deuterium Depletion (Budapest Hungary; May 7-8, 2015); *Keynote Lecture: Non-toxic metabolic management of metastatic cancer: Novel combination of ketogenic diet, ketone supplementation, and hyperbaric oxygen therapy*
39. McKnight Brain Institute; University of Florida (UF; Gainesville. FL; April 27, 2015); *Neuroprotective Metabolic Strategies*
40. NASA BlueSky Workshop on Exercise Technologies and Methods for Space Exploration (IHMC Pensacola; Feb 11-12, 2015); *Metabolic Strategies to Preserve and Enhance Exercise Performance and Adaptation for Human Spaceflight*
41. University of Tampa Conference on Human Performance and Nutrition; Department of Exercise Physiology (Tampa, FL; Feb, 2015); *Keynote Lecture: Ketogenic Dieting: Emerging Evidence of Fat and Ketones as Fuel*
42. Eötvös Loránd University; Institute of Biology; (Budapest Hungary; Oct 15, 2014); *Ketogenesis as an antiseizure and anticancer strategy: Cellular and molecular mechanism.*
43. Matthew's Friends 4th Global Symposium for Dietary Therapies for Epilepsy and other Neurological Disorders for Health Care Professionals (Liverpool, UK, Oct 7-11, 2014); *Moving towards Neuroprotection?*
44. Institute for Human and Machine Cognition (IHMC, Ocala, FL: September 25, 2014); *Metabolic Therapies: Therapeutic Applications and Practical Implementation.*

45. International Hyperbaric Oxygen Therapy Conference (New Mexico: Aug 22-24); *Hyperbaric Oxygen and Ketogenic Diet as an Adjuvant for Cancer Therapy*
46. Ancestral Health Symposium (AHS; Berkeley, CA; Aug 6-9); Panel Speaker: *Ketogenic Diet for Cancer*
47. BioLayne Foundation Conference on Physical Performance: University of South Florida, Morsani College of Medicine (July 21- July 23, 2014). *Ketogenic Nutrition: Effect on body Composition and Metabolic Biomarkers*
48. International Society of Sports Nutrition (ISSN; Clearwater, FL; June 19-21, 2014); *Metabolic Strategies for Enhanced Physical and Cognitive Performance*
49. Epilepsy Pipeline Conference (San Francisco, CA; June 5-7, 2014); *Ketogenic Compounds for the Treatment of Epilepsy*
50. NASA Blue Sky Workshop at Cosmos Club (Washington D.C.; May 29-June 1, 2014); *Ketones for Astronaut Safety, Performance and Resilience*
51. Beckman Institute, University of Illinois (Champaign, IL; May 2014); *Metabolic Strategy for Enhancing Physiological and Cognitive Resilience*
52. Alzheimer's Disease International (ADI) Conference (Puerto Rico, May 2014); *Medium Chain Triglycerides and Ketone Supplementation for Alzheimer's Disease*
53. Institute for Human and Machine Cognition (IHMC, Pensacola, FL: April 2014); *Metabolic Therapies: Therapeutic Applications and Practical Implementation*
54. Alternative and Complementary Medicine Conference (Palm Beach, FL. March 2014); *Hyperbaric Oxygen and Ketogenic Diet as an Adjuvant for Cancer Therapy*
55. American Epilepsy Society (AES); (Washington D.C.; Dec 2013); *Ketone Esters for Seizures: A Ketogenic Diet in a Pill?*
56. TEDx Talk Tampa Bay (St. Pete, FL; Palladium Theater; Oct, 2013); *Cancer as a Metabolic Disease: Implications for Therapies*
57. National Cancer Institute (NCI) Workshop on Cancer Metabolism, Oxidative Stress and the Warburg Effect. Arizona State University. (Phoenix, Arizona; Nov. 6-8, 2013); *Hyperbaric Oxygen as an Adjuvant for Cancer Therapy*
58. Glucose Transporter 1 Deficiency Syndrome (GLUT1DS) Family Conference; (Houston, TX: July 2013); *Ketone Ester Research: Application for GLUT1DS.*
59. University of Tampa; Department of Exercise Physiology (Tampa, FL; June 7, 2013); *Ketogenic Strategies for Enhancement of Cognitive and Physical Performance*
60. Food and Drug Administration (FDA): Considerations Regarding Food and Drug Administration Review and Regulation of Drugs for the Treatment of Amyotrophic Lateral Sclerosis (ALS); (Silver Spring, Maryland, Feb 25, 2013); *Ketones and Alternative Fuels for ALS.* <http://www.fda.gov/Drugs/NewsEvents/ucm339833.htm>
61. Israel Society for Hyperbaric and Diving Medicine (ISHDM), XII biennial International High Pressure Biology Group (IHPBG). (Eilat, Israel; November 9, 2012); *Metabolic Mitigation Strategy for CNS Oxygen Toxicity Seizures*

62. Glucose Transporter Type 1 Deficiency Syndrome Conference; Remi Savioz Glut1 Foundation (RSG1); (Orlando, FL; July 2012); *Development and Testing of Metabolic Therapies for Seizure Disorders*
63. Eötvös Loránd University; Institute of Biology; (Budapest Hungary; July 2012); *Development and Testing of Metabolic Therapies for Neurological Disorders and Cancer*
64. Eötvös Loránd University; Szivarvany Institute; (Budapest Hungary; July 2012); *Nutritional Management of Neurological Disorders and Cancer: Epigenetics”*
65. University of Tampa; Department of Exercise Physiology (Tampa, FL; June 2012): *Overtraining Syndrome: Nutritional and Metabolic Strategies to Prevent Central Nervous System Fatigue*
66. Barrow Neurological Institute (Phoenix, AZ; February 2012); *Therapeutic Ketosis for Seizures and Cancer Treatment*
67. University of Oxford (Oxford, United Kingdom: September 2011). *Therapeutic Ketosis for Neurological Disorders*
68. University of Padua (Italy; September 2011). *Ketogenesis as a Therapeutic Strategy for CNS Oxygen Toxicity and Other Neurological Disorders*
69. ONR Undersea Medicine Program Review (Seattle, Washington, August 2010): Project Summary: *Cellular and Molecular Studies of CNS oxygen toxicity*
70. University of Florida (Gainesville, FL; April 2010). *Metabolic Therapy as a strategy to Target Malignant Brain Cancer*
71. Undersea and Hyperbaric Medicine Society (UHMS) Meeting/ONR Undersea Medicine Program Review (Salt Lake City, Utah, July 2008): Project Summary (Yr3): *Hyperbaric Atomic Force Microscopy Analysis Oxidative Stress and its Ultrastructural Correlates in CNS Cells*
72. USF College of Aging Studies, Tampa, FL (annual talk: 2009-2011). *Neuroprotection from Ketogenesis*
73. ONR Undersea Medicine Program Review (Groton, CT; July 2007): Project Summary (Yr2): *Hyperoxia-Induced Oxidative Stress and its Ultrastructural Correlates in CNS Cells*
74. Società Italiana di Medicina Subacquea ed Iperbarica (Fidenza, Italy, 2007). *Atomic Force Microscopy (AFM) Analysis of Hyperoxia-Induced Morphological Changes in Cellular Membranes*
75. ONR Undersea Medicine Program Review (Duke University; July 2006): Project Summary (Yr1): *Hyperoxia-Induced Oxidative Stress and its Ultrastructural Correlates in CNS Cells*
76. Experimental Biology: Pre-doctoral Award Presentation (FASEB; San Diego, CA; April 12, 2003); *Hypoxic Chemosensitivity of Neurons in the Pre-Botzinger Complex of the rostral Ventro-lateral Medulla*
77. Dartmouth College: Dartmouth Medical School (Hanover, NH; Dec. 12-13 2002). *Hypoxic Chemosensitivity and the Neural Control of Autonomic Regulation: Role of Heme Oxygenase-2 (HO-2).*
78. International Congress of Physiological Sciences (IUPS): Workshop on neural control



of breathing (Christchurch, New Zealand, Sep 6-7, 2001). *Hypoxic chemosensitivity of cardiorespiratory regions of the rostral ventrolateral medulla (RVLM)*

### **OUTREACH PRESENTATIONS: PODCASTS, ARTICLES, NEWS, MEDIA**

1. Las Vegas Review Journal (March 2017); High-fat, low-carb ketogenic diet is ‘flexible,’ author says: <http://www.reviewjournal.com/life/health/high-fat-low-carb-ketogenic-diet-flexible-author-says>
2. SNR #167: Dom D’Agostino, PhD – Traumatic Brain Injury, CTE & Implications for Combat Sport Athletes (Feb. 2017). <http://sigmanutrition.com/episode167/>
3. Open Minds TV with Regina Meredith and Dominic D’Agostino (Feb. 2016): <http://bit.ly/OMKetogenicDiet>
4. Sigma Nutrition: SNR #164: Dominic D’Agostino, PhD – Press-Pulse Model of Cancer Therapy, Ketones & Metabolic Drugs (Jan. 2017). <https://sigmanutrition.com/episode164/>
5. Ben Greenfield Fitness Podcast: Ketone Esters vs. Ketone Salts. (Jan. 2017) <https://bengreenfieldfitness.com/2017/01/ketone-salts-vs-ketone-esters/>
6. School Me Podcast Episode #109; (Jan. 2017) <http://www.smpodcast.com/>
7. Vinnie Tortorich: Celebrity Trainer Podcast (Nov. 2016): *Ketosis and Weight Loss*. <https://player.fm/series/fitness-confidential-with-vinnie-tortorich/ketosis-and-weight-loss-with-dr-dominic-dagostino>
8. Ryan Munsey: Optimal Performance Podcast (Nov. 2016): <https://www.naturalstacks.com/blogs/news/benefits-of-ketogenic-diet-and-ketones-with-dominic-dagostino>
9. Tim Ferriss Podcast #3 (Oct, 2016); *Disease Prevention, Cancer and Longevity; Answering Listener Questions*. <http://fourhourworkweek.com/2016/09/25/dom-dagostino-on-disease-prevention-cancer-and-living-longer/>
10. SSD Podcast Episode #10 [https://soundcloud.com/abelcsabai/ssd-podcast-ep-10-dr-dominic-dagostino?utm\\_source=soundcloud&utm\\_campaign=share&utm\\_medium=facebook](https://soundcloud.com/abelcsabai/ssd-podcast-ep-10-dr-dominic-dagostino?utm_source=soundcloud&utm_campaign=share&utm_medium=facebook)
11. Charlie Foundation Interviews (Sept 22, 2016): *Mechanism of the Ketogenic Diet* [https://www.youtube.com/watch?v=TNoJbDfz\\_\\_Y](https://www.youtube.com/watch?v=TNoJbDfz__Y)
12. FitFluential Radio (Podcast 1): Ketosis 101 – *Basic Ketogenic Nutrition Principals for Health & Wellness*: <http://fitfluential.com/2016/10/ketosis-101-basic-ketogenic-nutrition-principals-health-wellness-dr-dominic-dagostino/>
13. FitFluential Radio (Podcast 2): *Exogenous Ketones for Performance & Wellness*: <http://fitfluential.com/2016/10/exogenous-ketones-performance-wellness-dr-dominic-dagostino-part-2/>
14. Extreme Health Radio –Episode #460– How The Ketogenic Diet Affects Cancer, Seizures, Weight Loss, Diabetes, Hormones, Energy & Why You Should Consider It <http://www.extremehealthradio.com/ep-460-dr-dominic-dagostino-how-the-ketogenic-diet-affects-cancer-seizures-weight-loss-diabetes-hormones-energy-why-you-should-consider-it/>

15. KetoSummit (Ketosummit.com): *Neuro-Degenerative Diseases, Supplements, & Keto Disease Prevention*
16. Real Meal Revolution: *The link between Cancer, Insulin Resistance and a Ketogenic Diet*: <http://realmealrevolution.com/real-thinking/the-link-between-cancer-insulin-resistance-and-a-ketogenic-diet>
17. Outside Magazine (Sept, 2016), *Is the Ketogenic Diet Right for You?* [http://www.outsideonline.com/2113406/high-carb-low-fat-ketone-diet#st\\_refDomain=t.co&st\\_refQuery=/IJ1IxBjMEO](http://www.outsideonline.com/2113406/high-carb-low-fat-ketone-diet#st_refDomain=t.co&st_refQuery=/IJ1IxBjMEO)
18. Awakening from Alzheimer's Video Series (Episode #7): <http://event.awakeningfromalzheimers.com/episode-7/>
19. Medium.com News: *Preventing Seizures: An intro to the Ketogenic Diet*. <https://medium.com/ketowell/eating-fat-lifting-cows-and-preventing-seizures-an-intro-to-the-ketogenic-diet-with-dom-d-13dc94f2c601#.7tb1lt9pq>
20. "Live It 2 Lead It: High Performance Practice Growth: Part 3: Dr. Dominic D'Agostino, Ph.D August 30 @ 8:30 PM EST *The Power of Ketosis: Personal High Performance and Patient Clinical Results*
21. "Eat. Move. Hack." What if you got Cancer Today? Dom D'Agostino, responded: (Nov. 2015): <http://eatmovehack.com/what-if-you-got-cancer-today-heres-how-tim-ferriss-podcast-guest-dom-dagostino-responded/>
22. Tim Ferriss Blog: Potential Tactics for Defeating Cancer: <http://fourhourworkweek.com/2014/01/28/cancer-treatment/comment-page-3/#comments>
23. Smart Drugs Smarts (episode #163): *Science and Application of Idebenone*; <http://smartdrugsmarts.com/category/podcast-episode/>
24. Smart Drug Smarts: *Science and Application of Exogenous Ketone Supplementation for Cognition* <http://smartdrugsmarts.com/episode-147-ketosis-cognition/>
25. Planet Paws: Advancing Science and Research on Nutrition for Canine Cancer
26. Superhuman Radio: Science and Application of Exogenous Ketone Supplementation (SHR # 1924): <http://superhumanradio.com/shr-1924-science-for-humans-pre-diabetes-rebuttal-article-ketone-supplements.html>
27. Bulletproof Chicago Biohacking Event: <https://medium.com/@markmoschel/13dc94f2c601#.irp0zb1wr>
28. BizJournals: *USF patent helps epileptics, holds promise for cancer and Alzheimer's patients* (July 14, 2016) <http://www.malaysiasun.com/index.php/sid/245831981>
29. Men's Fitness: *The Truth Behind the World's Most Cutting Edge, Fat-Burning Performance Meal Plan: The Keto Diet* (July 2016). <http://www.mensfitness.com/nutrition/what-to-eat/truth-behind-worlds-most-cutting-edge-fat-burning-performance-meal-plan-keto>
30. Bulletproof Executive: *Keying in on Ketones* (July, 2016). <https://www.bulletproofexec.com/dominic-dagostino-325/>
31. Crossfit Journal: *Cancer Loves Cookies* (July 2016): <http://journal.crossfit.com/2016/07/cancer-loves-cookies.tpl#featureArticleTitle>

32. Tim Ferriss Podcast #2 (July 2016); *Power of the Ketogenic Diet; Answering Listener Questions*. <http://fourhourworkweek.com/2016/07/06/dom-dagostino-part-2/>
33. STEM Talk IHMC Podcast hosted by Dr. Ken Ford: (June, 2016); Physiological Benefits of Nutritional Ketosis. <http://www.ihmc.us/stemtalk/episode-14/>
34. Nourish Balance Thrive (June, 2016). *The Race to Make a Ketone Supplement*. <http://www.nourishbalancethrive.com/podcasts/nourish-balance-thrive/race-make-ketone-supplement/>
35. My Fitness Pal. (June 2016) *Is the Ketogenic Diet Safe for Weight Loss?* <http://blog.myfitnesspal.com/ketogenic-diet-safe-weight-loss/>
36. Quantified Body: *Leveraging Ketone Bodies for Health, Performance and Longevity* (June, 2016); <http://www.ihmc.us/stemtalk/episode-14/>
37. Mind Pump (June, 2016): *Breakthroughs in Ketogenic Diet Research* <http://artizen.audello.com/dom-dagostino-interview/>
38. New York Times (NYT Magazine): (May 12, 2016) Old Idea Revived; Starve Cancer to Death. [http://www.nytimes.com/2016/05/15/magazine/warburg-effect-an-old-idea-revived-starve-cancer-to-death.html?\\_r=0](http://www.nytimes.com/2016/05/15/magazine/warburg-effect-an-old-idea-revived-starve-cancer-to-death.html?_r=0)
39. Four Hour Work Week Blog.(June 2016). *Unpublished Material from the NYT Magazine article on Cancer Metabolism* <http://fourhourworkweek.com/2016/06/06/exclusive-unpublished-material-from-nyt-magazine-story-on-cancer>
40. Intelligent Medicine with Dr. Ronald Hoffman (Part 1 and 2): May 10, 2016: <http://drhoffman.com/podcast/metabolic-approaches-to-cancer-treatment-part-1/> and <http://drhoffman.com/podcast/metabolic-approaches-to-cancer-treatment-part-2/>
41. USF Health News: “USF’s hyperbaric physiology research extracts discoveries from extreme conditions”: May 8, 2016: [http://hscweb3.hsc.usf.edu/blog/2016/05/05/usfs-hyperbaric-physiology-research-extracts-discoveries-from-extreme-conditions/?utm\\_source=usfhealth\\_home&utm\\_medium=image-link&utm\\_content=main\\_image&utm\\_campaign=health%20home](http://hscweb3.hsc.usf.edu/blog/2016/05/05/usfs-hyperbaric-physiology-research-extracts-discoveries-from-extreme-conditions/?utm_source=usfhealth_home&utm_medium=image-link&utm_content=main_image&utm_campaign=health%20home)
42. Found my Fitness Show: Dr. Rhonda Patrick: Modified Ketogenic Diet and Exogenous Ketone Supplementation. <https://www.youtube.com/watch?v=1Q7pSXIWHrI>
43. Fit2Fat2Fit Podcast (Drew Manning): <https://www.fit2fat2fit.com/podcast/2016/3/30/ep031-will-adapting-to-a-ketogenic-diet-help-athletes-workout-more-efficiently-with-dr-dom-dagostino>
44. Calyx Performance: Boosting Brain Function and Fat Loss with the Ketogenic Diet (Part: 1 and 2): <https://calyxperformance.com/2016/03/dominicdagostinoketogenic1/> and <https://calyxperformance.com/2016/03/dominicdagostinoketogenic2/>
45. NPR News (K-PBS News): Fighting Cancer by putting Tumor Cells on a Diet (March 2016): <http://www.kpbs.org/news/2016/mar/05/fighting-cancer-by-putting-tumor-cells-on-a-diet/>
46. Beating Cancer: How Cutting Sugar Reversed One Man's Death Sentence (March 2016): <http://www1.cbn.com/cbnnews/healthscience/2016/February/Not-Just-By-Faith-How-the-Christian-Can-Overcome-Depression>

47. WTVT-TB (FOX) News - Tampa Bay, FL: Dietary interventions for Cancer (Feb. 2016):  
<http://mms.tveyes.com/Transcript.asp?StationID=1995&DateTime=3%2F8%2F2016+8%3A03%3A19+AM&Term=USF&PlayClip=TRUE>
48. Tampa Sun Times: USF Hyperbaric Biomedical Research Laboratory: (Feb. 2016)  
<https://www.youtube.com/watch?v=KRgX5gZ29R8>
49. Primal Edge Health Podcast: <http://www.primaledgehealth.com/ep-26-dr-dominic-dagostino-new-ketogenic-research-dha-and-keto-special-ops-performance-enhancement/>
50. Just Kicking It Podcast at Duquesne University:  
<https://justkickitpod.com/2016/02/09/episode-39-dom-dagostino/>
51. CHTV Episode 98 Dr. Daniel Pompa: “Ketones and Ketosis”  
<https://www.youtube.com/watch?v=BIRfBUZrO94>
52. Ketovangelist Episode 39 Podcast: Science of Exogenous ketones:  
<https://www.ketovangelist.com/episode-39-dr-dominic-dagostino-discusses-his-work-with-exogenous-ketones/>
53. Office of Naval Research: Deep dive: “ONR-supported research combats oxygen toxicity in navy divers” [http://www.eurekalert.org/pub\\_releases/2015-12/oonr-ddo120815.php](http://www.eurekalert.org/pub_releases/2015-12/oonr-ddo120815.php)
54. Tim Ferriss: Four Hour Work Week Podcast on Nutritional Ketosis and Cancer Research: <http://fourhourworkweek.com/2015/11/03/dominic-dagostino/>
55. USF Press Release (2015): Ketone Supplementation:  
<http://hscweb3.hsc.usf.edu/blog/2015/06/10/usf-researchers-develop-novel-ketone-supplements-to-enhance-non-toxic-cancer-therapy/>
56. Science Daily (2015): Ketones as anti-inflammatory mechanism of dieting and fasting <http://www.sciencedaily.com/releases/2015/02/150216131146.htm>
57. Science Newsline Medicine (2015):  
<http://www.sciencenewsline.com/articles/2015061020590053.html>
58. Research History Article (2015) The Paleo Solution: Christoffersen T; D’Agostino DP. “The Origin (and future) of the Ketogenic Diet – Part 1”:  
<http://robbwolf.com/2015/09/24/the-origin-and-future-of-the-ketogenic-diet-part-1/>
59. Online Lecture: Institute for Human and Machine Cognition (2014: IHMC; Ocala):  
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61. Public Presentation: TedX Tampa Bay Presentation (2014):  
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62. USF Press Release (2014): Nontoxic Cancer Therapies Research:  
<http://hscweb3.hsc.usf.edu/blog/2013/06/10/nontoxic-therapy-proves-effective-against-metastatic-cancer-in-preclinical-research/>
63. Research Interview (2014): Bulletproof Radio (Podcast#85)  
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64. Research Interview (2014): Single Cause Single Cure:  
<http://www.singlecausesinglecure.org/an-interview-with-dominic-dagostino/>
65. Interview: Mastering Ketosis (2014): <https://www.bulletproofexec.com/85-in-a-state-of-ketosis-with-dominic-dagostino-podcast/>
66. News Report: Health Canal (2014): <http://www.healthcanal.com/cancers/64357-usf-researchers-develop-novel-ketone-supplements-to-enhance-non-toxic-cancer-therapy.html>
67. Interview: Joe Johnson: Live More (2014): <http://www.cancerdudes.com/dominic-dagostino-interview/>
68. Interview: Carl Lanore: Superhuman Radio: Ketone Supplements (2014)  
<http://superhumanradio.com/shr-1665-the-blueprint-power-hour-novel-ketone-supplements-may-promise-non-toxic-cancer-therapy.html>
69. Interview: Carl Lanore: Superhuman Radio: Ketogenic Diet for Dummies (2014):  
[http://superhumanradio.com/components/com\\_podcast/shu/SHU10212013-Ketogenic-Diets-For-Dummie.mp3](http://superhumanradio.com/components/com_podcast/shu/SHU10212013-Ketogenic-Diets-For-Dummie.mp3)
70. Interview: Carl Lanore: Superhuman Radio (2014): [SHR # 1330: Best Practices For Using Ketone Salts For Dieting, Performance And Therapeutic Purposes:](#)
71. Interview: Tristan Haggard: Primal Edge Health Podcast (2014)  
<https://www.youtube.com/watch?v=oKbaPQlIKX8>
72. News Report: Ocala Star Banner (2014):  
<http://www.ocala.com/article/20140925/ARTICLES/140929780?tc=ar>
73. Interview: Smash the Fat: Nutritional Strategies to Target Cancer (2014):  
<https://www.youtube.com/watch?v=oUP9fFu7IE>
74. News Interview: Celebrity Health and Fitness (2014):  
<http://www.celebrityhealthfitness.com/28602/ketogenic-diet-ketone-supplements-and-hyperbaric-oxygen-therapy-doubles-cancer-survival-in-mice/>
75. News Report: Medical Online (2014): <http://www.news-medical.net/news/20150611/Novel-combination-of-non-toxic-dietary-and-hyperbaric-oxygen-therapies-doubles-survival-time-in-cancer-model.aspx>
76. Interview: Southeast Green Show: Cancer and Diet (2014):  
<http://www.southeastgreen.com/index.php/seg-features/speaking-of-green/season-4/9686-is-your-diet-feeding-your-cancer>
77. Interview: Less Doing: More Living Podcast #44 (2013):  
<http://lessdoing.com/2013/11/04/podcast-44-with-dr-dominic-dagostino-from-the-university-of-south-florida-college-of-medicine/>
78. Interview: Ben Greenfield Fitness: Diving Into Ketosis (2013):  
<http://www.bengreenfieldfitness.com/2013/10/deep-dive-ketosis-navy-seals-extreme-athletes-busy-executives-can-enhance-physical-mental-performance-secret-weapon-ketone-fuel/>

79. Interview: CBN News: Deanna Protocol for ALS (2012).  
<http://www.cbn.com/cbnnews/healthscience/2012/November/Deanna-Protocol-a-Breakthrough-for-Lou-Gehrigs/>
80. Interview: CBN News: Starving Cancer: Ketogenic Diet as the Key to Recovery (2012) <https://www.cbn.com/cbnnews/healthscience/2012/December/Starving-Cancer-Ketogenic-Diet-a-Key-to-Recovery/>
81. Interview: Dr. Joe Mercola: Discussion of Cancer Research (2012):  
<http://articles.mercola.com/sites/articles/archive/2013/06/30/dagostino-cancer-research.aspx>
82. Interview: Ketogenic Diet May Be Key to Cancer Recovery (2012):  
<http://articles.mercola.com/sites/articles/archive/2013/03/10/ketogenic-diet.aspx>
83. Interview: Nourish Balance Thrive: Ketogenic Diets (2012):  
<http://www.nourishbalancethrive.com/podcasts/nourish-balance-thrive/ketogenic-diets-dominic-dagostino-phd/>
84. Interview: Jimmy Moore Podcast: Living Low Carb Show (2012).  
<http://www.thelivinlowcarbshow.com/shownotes/10568/848-dr-dominic-dagostino-keto-clarity-expert-interview/>
85. Interview: Vinnie Tortorich Show (2012) :  
<http://vinnietortorich.com/2015/02/angriest-trainer-354-one-one-dr-dominic-dagostino/>
86. News Report: Examiner: Cancer is a metabolic disease that can be managed with ketogenic diet (2012). <http://www.examiner.com/article/cancer-is-a-metabolic-disease-that-can-be-managed-with-low-carb-ketogenic-diet>
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<http://www.examiner.com/article/low-carb-ketogenic-diet-fights-cancer-without-chemo-says-dr-dominic-dagostino>
88. Interview: Body IO Performance show (2012): <http://body.io/body-io-fm-13-dr-dominic-dagostino/>
89. Interview: Ameer Rosic Show: Ketogenic Diet for weight loss, brain health and longevity (2012) <http://www.ameerrosic.com/ketogenic-diet-for-weight-loss-brain-performance-and-enhanced-longevity/>
90. Interview: Discussion Panel: ISSN Diploma in Applied Sports & Exercise Nutrition:  
<http://guruperformance.com/institute/videos/>
91. Interview: Fitness Nerds (2012): <http://fitnessnerds.podbean.com/e/podcast-18-dr-dominic-dagostino-and-the-ketogenic-diet/>
92. USF News: Hyperbaric biomedical research probes new depths of understanding, USF-COM; <http://hscweb3.hsc.usf.edu/health/now/?p=96>
93. USF News: Hyperbaric chamber installation, USF-COM;  
[http://hscvideo2.hsc.usf.edu/asxroot/HSC/Public\\_Affairs/Hyperbaric.asx](http://hscvideo2.hsc.usf.edu/asxroot/HSC/Public_Affairs/Hyperbaric.asx)

94. WEDU Public Television (PBS: Smart Health):  
[http://www.wedu.org/Smart\\_Health/past.aspx](http://www.wedu.org/Smart_Health/past.aspx).
95. ONR News: Protecting Navy Divers and Submariners: the Undersea Medicine Solution; Office of Naval Research (ONR) (duration = 00:09:38)  
<https://www.youtube.com/watch?v=1TqYx5-HBEc>

### **PERSONAL ONLINE RESOURCES TO PUBLISHED RESEARCH**

1. Academia: <https://usf.academia.edu/DominicDAgostino/Papers>
2. Research Gate: [https://www.researchgate.net/profile/Dominic\\_DAgostino](https://www.researchgate.net/profile/Dominic_DAgostino)
3. Linked In: <https://www.linkedin.com/pub/dominic-d-agostino/b/14/156>
4. RESEARCHER ID: I-6196-2012: <http://www.researcherid.com/rid/I-6194-2012>

### **RESEARCH AREAS OF INTERESTS**

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- Epilepsy and other Seizure Disorders
- Central Nervous System Oxygen Toxicity (seizures)
- Brain and Metastatic Cancer
- Alzheimer's Disease
- Wound Healing
- Hyperbaric Oxygen Therapy
- Atomic Force Microscopy
- Confocal Microscopy
- Ketogenic Diet Therapies
- Development and Testing Exogenous Ketones
- Rare Genetic Diseases
- Inborn Errors in Metabolism
- Glucose Transporter Type 1 Deficiency Syndrome Therapies
- Metabolic-Based Drugs
- Repurposing Drugs

### **TECHNICAL EXPERTISE**

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Atomic Force Microscopy (AFM); laser scanning confocal microscopy, diet design and formulation, intragastric gavage, cardiac puncture, blood metabolite measurements, metabolomics studies, membrane lipid peroxidation assays, spectrophotometric assays, electrophysiological measurements using *in vitro* and *in vivo* animal preparations, whole-cell/perforated-patch recordings with patch-clamp micropipettes; intracellular recording with sharp microelectrodes; immunohistochemistry; fluorescence/light microscopy; ratiometric fluorescence imaging of reactive oxygen species (ROS), reactive nitrogen species (RNS), pH<sub>i</sub>, intracellular Ca, Live/Dead cell analysis, polarographic measurements of tissue slice PO<sub>2</sub>; and hyperbaric/hypobaric technology, behavioral testing, electron microscopy, western blot, ELISA assays

### **COMMUNITY OUTREACH AND VOLUNTEER SERVICE OFF CAMPUS**

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1. 2010-Present: Big Brothers Big Sisters (BBBS) of Tampa Bay Mentor (James Tyler: 2-9hrs/month service): <http://www.bbbstampabay.org/Default.aspx?navigationid=2>
2. 2009-Present: TIME 4:13 Mission; (nonprofit 501c3); (missions: Mexico, Honduras, Haiti, West Virginia, local): <http://www.gloryb2godmissions.com/>
3. 2010-Present: Humane Society of Tampa Bay (registered dog and cat foster parent) <http://humanesocietytampa.org/>
4. 2011-Present: Metropolitan Ministries (homeless count and relocation, fund raising): <http://www.metromin.org/>
5. 2010-Present: Lifelink Organization (awareness and fund raising events for organ donation) <http://www.lifelinkfound.org/>
6. 2010-Present: Florida Blood Services (fund raising events) <http://www.oneblood.org/>
7. 2012-Present: Winning the Fight Against Neurodegenerative Diseases; (nonprofit 501c3) (scientific board, fund raising) <http://www.winningthefight.net/>
8. 2013-Present: Manta Pacific Foundation (501c3): Conservation and behavioral studies of manta rays in the wild and in captivity. <http://www.mantapacific.org/#!volunteers/c231k>

## COLLABORATORS

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**PERSONAL INTERESTS**

SCUBA Diving (PADI), Marine Biology, Exercise Physiology, Food Science, Hiking, Kayaking, Mountain Biking, Space Enthusiast, Motorcycles, International Travel

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**REFERENCES**

References available upon request